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*Charles Verzi
President - ETBA*

President's Corner

Charles Verzi

When I arrived at work this morning, I began the day checking voice mails, e-mails, and reviewing my calendar. When I looked up, I spied the ETBA Charter certificate hanging on the wall. This was given to all members that participated in 1995. The certificate is significant to me. In a field that is often overlooked in the healthcare arena, this display of participation makes me feel connected to something greater. This displays a connection to a field - a profession - that is truly special.

A biomedical technician is more than a maintenance worker. I see him or her as a specialist in the human/machine interface. My younger brother used to tell everyone that I was a "helper" at the hospital. After many years of reflection I can say that is right, I do help. Our goal should be to help our employer to reach the goals of the organization. This is also true of the ETBA.

ETBA is here to help our profession in the East Tennessee area. Helping it by supporting the members in many ways. One way the board recently discussed was the possibility of presenting various speakers at a "watered down" symposium. We would coordinate this with one of our membership meetings. This, by all means, is an outstanding idea, but this is also where we need everyone's help. Speakers are expensive. Pure and simple this is how they support their families. To offer a quality program, we must have input from the membership. We must offer a program that can support itself.

So when you arrive to work tomorrow focus on what is important -Your faith, family and occupation. So, how can the ETBA help you with your occupation? Let us know. We are here to help.

Please send any suggestions to me: verzick@msha.com

I would like to echo Charles's request above. Suggestions for membership presentations, newsletter topics, special events, web page enhancements or anything else you feel would improve the organization or assist you in performing your job, are always welcomed by the board. We want to make ETBA the best organization we can and you are our motivating factor. Let us know your thoughts for improving ETBA and your chosen profession! - Editor

Plasma Display Technology

Randy Bueckman

Basically a plasma display is a grid of fluorescent lights. As with a CRT, each pixel is made up of three lights - red, green and blue. Plasma displays vary the intensities of the different fluorescent lights to produce a full range of colors.

The xenon and neon gas used in a plasma display is contained in thousands of tiny cells between two plates of glass. Electrodes are also contained between the glass plates, on both sides of the cells. The electrodes form an X Y grid. Using a computer, each cell is addressed individually.

See the Members' Only section of the ETBA website for more details and a graphic representation of this technology. Also, you will find a description of DLP technology created by Texas Instruments on the website. There is a short movie describing this interesting and innovative technology.

The 2003 ETBA officers:

Board Chairman - James Gregg
President - Charles Verzi
Vice President - Larry Morton
Secretary - William Teilhet
Treasurer - Mack Webster
Program Director - Scott Macfarland
Newsletter Editor - Randy Bueckman

ETBA Financial Report

Mack Webster

Balance 3/1/2003 **7,816.70**

Inflows:

Corporate Membership	450.00
General membership	350.00
ETBA Shirt Sale	30.00
Total Inflows	830.00

Outflows:

Purchase of ETBA Shirts	308.95
Meals and Bev (Mar Mtg)	14.65
Postage	22.20
Refund (Mbr Overpay)	5.00
Total Outflows	350.80

Balance 3/21/2003 **8295.90**

Net Increase/Decrease **479.20**

Study Links Asthma to Cockroach Exposure

Randy Bueckman

A recent study presented at the American Thoracic Society International Conference in Seattle, Washington indicated that exposure during the first 12 months to cockroaches is extremely likely to cause asthma later in life. Dr. Frank Gilland of the University of Southern California in Los Angeles presented his study to the group.

Gilliland studied 700 children. Half of the study group had developed asthma by age five. Gilliland found that children exposed to cockroaches within the first 12 months were twice as likely to develop asthma. "If the exposure occurred when the child was older, it did not have as large an effect" Gilliland said.

This study is particularly disturbing to me because of the equipment we work on. One of our biggest "customers" in Biomed here at Children's is our Home Health Department. Home health provides ventilators, apnea monitors and concentrators for home use. Each one of these devices is used on children already having difficulty with respiration for some reason. Many of these devices will stay in the home

for months before they are swapped out for preventive maintenance.

What disturbs me is that it is not unusual to be working on one of these devices and have a cockroach crawl out. We see eggs, carcasses and, of course, the live bug. . . INSIDE the units. One ventilator was so bad we had an exterminator come to give us ideas for getting rid of the pests.

We have passed the information on to our Home Health Department in hopes that parents would be informed. I know not all parents have the means to eradicate cockroaches from their homes or apartments, but there are many who can. And for those who can't, just cleaning up one room may make a lifetime difference for their child.

Cellular Cameras Focus on the Start of Disease

Randy Bueckman

Reuters News Agency recently reported that a new technology is being developed that will look into the genesis of disease. "Molecular imaging combines gene and protein-based research with new diagnostic drugs that zero in on diseased cells." Drugs are tagged with radioactive isotopes that show up as highlighted areas

in the image. These drugs would then attach themselves to proteins selected as known disease causing triggers. Then a microscope camera will be

"Molecular imaging combines gene and protein-based research with new diagnostic drugs that zero in on diseased cells." - Reuters

developed that can see the cell within the body for pinpoint

diagnosis and treatment. Molecular imaging depends on chemicals to enhance the image. To capitalize on this new chemical technology, imaging hardware makers are assembling drug research teams. In the last couple of years, they have formed molecular imaging departments, acquired specialty device makers and partnered with the makers of diagnostic drugs.

It is hoped this technology will detect disease years before current technology.

SOAPBOX

Charles Verzi

Manufacturers have done a great job at designing new equipment. I can remember when high current leakage was a big problem. Isolation transformers, low leakage power cords and secondary grounds were commonplace. The industry has since passed many regulations and the GMP (Good Manufacturing Practices) which have created a common framework for design and development within a quality system. Nevertheless, with all the improvements, two things stand out in my mind.

First I would like to address power switches. (This one really intrigues me). I have spoken with several vendors over the years about power switches. Most are using a common receptacle/power switch device located on the back of the unit. This is effective because now they have established a receptacle/power switch/fuse/voltage selector combination that saves space and money.

How often have we taken a call only to find that the power switch at the rear of the unit is turned off? The operator has insured that the power switch on the front of the unit has been pressed one thousand times and the power cord is plugged in. Or, the unit was working until the battery died, they plugged it in, and it still does not work. Wow. I have heard that one hundreds of times.

I remember purchasing some Physio Control Life Pak 8 units that had something unique on their power switches. They engineered a bracket that held the power switch in the on position. (Couldn't turn it off without a screwdriver). This shows that even with good regulation and design ideas the outcome can be flawed. My simple answer is to have only one power switch on the unit that is in a convenient place for the operators to use.

Second, the power cord for some devices enters the unit though some type of strain relief. This causes the biomedical technician a lot of grief because of the time it takes to replace broken cords, and then it seems we never have the right tool to clamp the retainer back into place. So, with the arrival of the power switch/receptacle/fuse/voltage selector we have adopted removable power cords. This design is not so great for equipment that is frequently moved, equipment that is battery powered or equipment that the rear of the unit is inaccessible.

Physio Control introduced the Life Pak 9 series of defibrillators to replace the Life Pak 8. No power switches on the back - Good. Removable power cords with no retainer - Bad. These life saving devices are placed on mobile carts and unplugged daily. This is not to bash Physio Control, but we can lower the down time and unwanted calls by employing a little more sense in the design of these devices. This goes for all medical equipment.

My recommendations, Mr. Manufacturer, are:

- One power switch that is accessible
- Power cord retainers for all devices

Simple, but effective!

Clinical Aspects of Mechanical Ventilation

Scott Macfarland

Many of us have a basic understanding of how anesthesia machines or ventilators work, but have you ever researched the clinical aspects of mechanical ventilation? Too often we are content to know how a device works without thinking of what the clinician is trying to accomplish.

If you are like me, you chose the biomedical profession because you have an insatiable appetite for learning new things. How do they do that? What makes this work? How could this be improved? These are all questions I ask myself daily. The other BMETs I work with seem to have the same curiosity about any new technology that comes along.

Part of what we do involves good communication with physicians

and clinicians. In order to do that effectively, we need to be able to take small steps into their world. Knowing a little of what they want to accomplish by the use of the technology we are so familiar with helps bridge the gap and makes us better at what we do.

At our next ETBA Membership Meeting, Chuck Horne will be presenting the Clinical Aspects of Mechanical Ventilation. You won't want to miss this one!

The next ETBA Membership Meeting

will be held **June 17, 2003** at

St. Mary's Medical Center

in Knoxville

<http://www.mercy.com/stmarys>

Chuck Horne

will be presenting

The Clinical Aspects of Mechanical Ventilation

Directions:

Take I-40 to exit 389A, Broadway. Take this exit which merges onto Broadway. Proceed through three sets of traffic lights. The fourth traffic light will be at the intersection of Broadway and Woodland Avenue. Turn left onto Woodland Avenue, Fulton High School will be to your right. After passing Fulton High School, take the first street on your right which will be St. Mary' s Street. Go to the top of the hill, you will see signs for Admitting & One Day Surgery on the left, turn left onto the circle drive. The meeting will be held in the Shamrock Room.



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Asthma Study